DMO TETRA Interoperability Certificate

Sepura, STP8000, Repeater

Krakow, October 2012

Latest Certified Repeater SW Release:	1697 004 02937
Latest Certified Repeater HW Release:	PSNTW201T300P00

ISCTI (Istituto Superiore delle Comunicazioni e delle Tecnologie dell'Informazione) certifies that the Sepura STP8000 DM Repeater has been subject to interoperability testing for the features listed in the "Certified features" tables of this certificate with the following DM Terminals; Sepura MTM800 Fug and MTP850 Fug, Sepura STP8000, SRG3900 and SRH3900 in accordance with the TETRA Interoperability Profiles, TIP compliance Test Plan and related TETRA interoperability requirement tables.

The certificate features of each DM Terminal acting as master during testing is highlighted in light blue.

The table lists all the available TETRA interoperability profiles, and summarizes the main functionalities of every profile according to the TETRA interoperability requirement tables.

A feature is "Certified" when it has been successfully tested during the last test session with one of the testing method described in the TETRA process document part 1 (TPD001-01).

A breakdown into the feature details is given in the Feature Compliance Overview section of this certificate.

This certificate has been issued following a fully witnessed test session on October 2012. Detailed test results are listed in the Test Report associated to this Certificate. Details and explanation about the procedure used to provide verdicts are in the TIC process TPD001-01.

NOTE: the STP8000 Repeater was tested as Repeater Type 1A only.

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V1

Certified features

DMO Test Session Krakow, October 2012 Sepura STP8000	Motorola MTM800 Fug	Motorola MTP850 Fug	Sepura STP8000	Sepura SRG3900	Sepura SRH3900
Features					
TTR002-05 DMO AIE - Rep					
DMO AIE Encryption - via Repeater Type 1A	Partial	Partial	Partial	Partial	Partial
DMO AIE Encryption - via Repeater Type 1B					

DMO Test Session Krakow, October 2012 Sepura STP8000	Motorola MTM800 Fug	Motorola MTP850 Fug	Sepura STP8000	Sepura SRG3900	Sepura SRH3900
Features					
TTR002-05 DMO AIE - Rep					
DMO AIE Encryption - via Repeater Type 1A	Partial	Partial	Partial	Partial	Partial
DMO AIE Encryption - via Repeater Type 1B					

Feature Compliance Overview

The first pages of this certificate provide an indication about the main interoperable TETRA features for each TIP specification (as described in the TIC-RT). The main interoperable TETRA features result depend on a set of sub-feature, the outcomes associated to each sub-feature are directly derived from the analysis of the performed test cases.

The results associated to each feature and sub-feature are shown in the "Feature compliance report" table below. The certified DM Terminal acting as master during testing is highlighted in light blue. The main features are indicated with grey background and the associated sub-features (or second level features) have white background.

The outcome assigned to a sub-feature as shown on page 2, is derived by the Feature compliance report tables.

Outcome	Definition
Certified	All required tests have been performed and passed.
Partial	Not all the required test cases have been performed, but none have failed.
-	Feature cannot be certified e.g. it is not supported by at least one product, no tests were performed, or some tests were performed but at least one failed.

The outcome is derived from the verdict assigned to a sub-feature is the result of the analysis of the test case results listed in the Test Report. The verdict assigned to each sub-feature is derived from one or several test case results or test steps result, the TETRA Interoperability requirement tables (TIC-RTs) indicate the link between sub-features and test cases for the certified set of equipment capabilities (see Test Report).

Verdict	Definition
Passed	All mandated tests or steps of tests linked to this functionality (as per TIC-RT indication) are compliant with the TIP specification relevant to this feature.
Incomplete	Not all Mandated tests (as per TIC-RT indication) have been executed.
Failed	At least one of mandated test or steps of tests linked to this functionality failed to match the TIP specification relevant to this feature.

The verdict associated to the feature gives also indication about the method used to test that feature. The allowed testing Methods are listed in the table below, a complete description of the procedures and constraints associated to each of them can be found in the "TPD001-01 TETRA Interoperability Certification Process Description" document.

Testing Method	Description
Complete	All mandated tests associated to the feature have been executed.
Spot	Only a selection of the mandatory test cases associated to the feature has been executed during the test session. These tests are a subset of the tests performed on an equivalent software which has been "completely" tested against the same functionality on a different equipment, see manufacturer declaration in annex B.
Regression	Only a selection of the mandatory the test cases associated to the feature is executed during the test session. These tests are a subset of the tests performed on a previous version of the same software which has been "completely" tested in a previous test session against the same functionality, see manufacturer definition in the associated Test Report
Regression on spot	The regression method has been applied on the verdicts based on the spot testing method.
Verified	The CB has verified that the identified number of tests were successfully passed based on the log file evaluation. In addition some of the tests may have been witnessed by the CB.

Depending on equipment capabilities declared by the manufacturer, some features or sub-feature cannot be tested. The following table describes meaning of the used abbreviation:

Indication	Definition
Not supported	The Repeater and/or MS do not support the minimum features required to verify these items
/	The Result is not relevant (or needed) to verify the Repeater and/or MS features

ISCTI has made every effort to ensure that every result have been correctly evaluated in accordance with the relevant TIPs, Test Plans and TIC-RTs. ISCTI has no liability for the test results, or towards the manufacturers.

The table on the following page lists HW and SW releases of DM Terminals under test in the test session and the used TIP specifications, Test Plans, and TIC-RTs.

This Certificate and Certificates from previous test sessions are available on the TETRA + Critical Communications Association web site (http://www.tandcca.com/interop/page/12476).The feature results are shown in the tables below.

Information on equipment under test and document references

Test Session Place/Date	**Motorola, Krakow October 2012**
Repeater Type	Sepura STP8000
Repeater HW release	PSNTW201T300P00
Repeater SW release	1697 004 02937
DM Terminal 1 Type	Motorola MTM800 Fug
DM Terminal 1 HW release	MT953CG
DM Terminal 1 SW release	MR10.6.3
DM Terminal 2 Type	Motorola MTP850 Fug
DM Terminal 2 HW release	PT912BG
DM Terminal 2 SW release	MR5.14.3
DM Terminal 3 Type	Sepura SRH3900
DM Terminal 3 HW release	PSPTW101T400G00
DM Terminal 3 SW release	1697 004 03510
DM Terminal 4 Type	Sepura STP8000
DM Terminal 4 HW release	PSNTW201T300P00
DM Terminal 4 SW release	1697 004 02937
DM Terminal 5 Type	Sepura SRG3900
DM Terminal 5 HW release	MSUTW201T2C0G00
DM Terminal 5 SW release	1697 004 03577
TIP Specs and TIP Compliance Test Plans	
DAIE -Rep	TTR002-05 v100 IOP002-05 v100 TIC-RT002-05-3_DAIE-Rep1 v106

Feature compliance report

DMO Test Session Krakow, October 2012 Sepura STP8000	Motorola MTM800 Fug	Motorola MTP850 Fug	Sepura STP8000	Sepura SRG3900	Sepura SRH3900
TTR002-03 Repeater					
DMO AIE Encryption - via Repeater Type 1A	**Incomplete 10_pass_of_12**	**Incomplete 3_pass_of_12**	**Incomplete 6_pass_of_12**	**Incomplete 2_pass_of_12**	**Incomplete 1_pass_of_12**
Encrypted Group Calls	PASSED Complete 4_pass_of_4	Incomplete 2_pass_of_4	Incomplete 1_pass_of_4	Incomplete 1_pass_of_4	Incomplete 0_pass_of_4
Encrypted Individual Calls	PASSED Complete 4_pass_of_4	Incomplete 0_pass_of_4	PASSED Complete 4_pass_of_4	Incomplete 0_pass_of_4	Incomplete 0_pass_of_4
Encrypted Status messages	PASSED Complete 2_pass_of_2	Incomplete 1_pass_of_2	Incomplete 1_pass_of_2	Incomplete 1_pass_of_2	Incomplete 1_pass_of_2
Pre-emption of encrypted activity	PASSED Complete 2_pass_of_2	Incomplete 0_pass_of_2	PASSED Complete 2_pass_of_2	Incomplete 0_pass_of_2	Incomplete 0_pass_of_2
Handling mismatched keys	Incomplete 0_pass_of_2	Incomplete 0_pass_of_2	Incomplete 0_pass_of_2	Incomplete 0_pass_of_2	Incomplete 0_pass_of_2
DMO AIE Encryption - via Repeater Type 1B					
Encrypted Group Calls					
Encrypted Individual Calls					
Encrypted Status messages					
Pre-emption of encrypted activity					
Handling mismatched keys					

Note: The DM-MSA under test is highlighted in light blue background.

DMO Test Session Krakow, October 2012 Sepura STP8000	Motorola MTM800 Fug	Motorola MTP850 Fug	Sepura STP8000	Sepura SRG3900	Sepura SRH3900
TTR002-03 Repeater					
DMO AIE Encryption - via Repeater Type 1A	**Incomplete 3_pass_of_12**	**Incomplete 10_pass_of_12**	**Incomplete 2_pass_of_12**	**Incomplete 3_pass_of_12**	**Incomplete 3_pass_of_12**
Encrypted Group Calls	Incomplete 2_pass_of_4	PASSED Complete 4_pass_of_4	Incomplete 1_pass_of_4	Incomplete 1_pass_of_4	Incomplete 1_pass_of_4
Encrypted Individual Calls	Incomplete 0_pass_of_4	PASSED Complete 4_pass_of_4	Incomplete 0_pass_of_4	Incomplete 0_pass_of_4	Incomplete 0_pass_of_4
Encrypted Status messages	Incomplete 1_pass_of_2	PASSED Complete 2_pass_of_2	Incomplete 1_pass_of_2	PASSED Complete 2_pass_of_2	PASSED Complete 2_pass_of_2
Pre-emption of encrypted activity	Incomplete 0_pass_of_2	PASSED Complete 2_pass_of_2	Incomplete 0_pass_of_2	Incomplete 0_pass_of_2	Incomplete 0_pass_of_2
Handling mismatched keys	Incomplete 0_pass_of_2	Incomplete 0_pass_of_2	Incomplete 0_pass_of_2	Incomplete 0_pass_of_2	Incomplete 0_pass_of_2
DMO AIE Encryption - via Repeater Type 1B					
Encrypted Group Calls					
Encrypted Individual Calls					
Encrypted Status messages					
Pre-emption of encrypted activity					
Handling mismatched keys					

Note: The DM-MSA under test is highlighted in light blue background.